

Testimony of
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Hearing on
Progress Since 9/11: Protecting Public Health
and Safety Against Terrorist Attacks

Committee on Government Reform
Subcommittee on National Security, Emerging Threats
and International Relations
U.S. House of Representatives

Good afternoon Chairman Shays, Ranking Member Kucinich, Congresswoman Maloney and other Subcommittee members. My name is Dr. Kerry Kelly and I am the Chief Medical Officer of the New York City Fire Department (FDNY). I would like to thank you for the opportunity to testify today. I would also like to thank you for the restoration of the \$125 million in September 11 funds, particularly for the \$75 million that will be available to local agencies providing health and mental health services and monitoring.

Introduction

On September 11, 2001, the FDNY responded to the World Trade Center (WTC) site prepared to save lives by suppressing fire and providing pre-hospital medical care. This is what FDNY first responders do each and every day, whether they are Firefighters, EMTs, Paramedics, or fire and EMS officers.

On that day, 343 of our FDNY first responders lost their lives, as did 23 NYPD officers, 84 Port Authority personnel and more than 2,200 civilians. New York City's first responders became our first line of defense against a heinous attack on our country; they exhibited bravery and self-sacrifice that have defined their roles for more than 140 years.

FDNY first responders continued their rescue and recovery efforts during the weeks and months that followed 9/11. Nearly 14,000 of our personnel from every rank took part in the rescue, recovery and clean-up efforts at the WTC site. Our first responders were the first in and the last out. During the initial rescue and evacuation of the buildings, and later during the extended recovery that followed, our first responders were exposed to the

physical hazards of the WTC site. No less significant, our first responders were also exposed to the emotional trauma of their own horrifying 9/11 experiences, losing many colleagues and friends, and taking part in the solemn recovery and removal of body parts.

For the surviving FDNY first responders, medical consequences quickly surfaced.

Within the first week following 9/11, 99 percent of exposed FDNY firefighters reported at least one new respiratory symptom while working at the site. It was incumbent upon the FDNY to address these new areas of concern.

The FDNY WTC Medical Screening, Monitoring and Treatment Programs

In recognition of the exposures at Ground Zero, the FDNY initiated the WTC Medical Screening and Treatment Program in October of 2001, just four weeks after 9/11. Our Bureau of Health Services (BHS) partnered with the Centers for Disease Control and Prevention (CDC) and the National Institute of Occupational Health and Safety (NIOSH) to implement medical screening for the exposed FDNY first responders. More than 10,000 of our FDNY first responders were evaluated in the first six months following 9/11 -- from October 2001 through February 2002. Since that time, we have screened 13,700 FDNY first responders (nearly 100 percent of our exposed workforce – an unprecedented level of participation for a joint labor-management initiative). Also in collaboration with NIOSH, we started our WTC Medical Monitoring Follow Up program. This program is similar to that offered by Mt. Sinai Medical Center for non-FDNY workers/volunteers. In fact, we designed it with them. At this time, nearly 4,000 of our FDNY exposed first responders have participated in this second-visit evaluation

for medical and mental health monitoring. Over the next year, we plan to reach all 13,700 first responders in this program, both active and retired. Our goal is to offer every one of them continuing follow-up exams over the next 20 to 30 years, but Federal funding is guaranteed only until 2009. This extended monitoring program is critical to the early detection and treatment of diseases such as cancer, and heart and lung disease. Asbestos-related illness data from past occupational exposures show that cancer is detected 15 to 30 years after exposure. On 9/11, the seeds of the illness were laid down in clouds of dust that rained down on our first responders and the full manifestation may not be known for another 20 to 30 years.

Because BHS had a medical infrastructure in place prior to 9/11 that included annual medical exams of all of our first responders, the FDNY was able to compare the post-9/11 data to the pre-9/11 data from our annual medical exams. In fact, we are the only group of exposed 9/11 workers or volunteers who are able to objectively assess the impact of WTC exposures by making comparisons to prior unbiased data. The results of our initial screenings have been widely reported in the New England Journal of Medicine, the CDC's Morbidity and Mortality Weekly Report, the American Journal of Respiratory and Critical Care Medicine and the cardiopulmonary and critical care journal, CHEST. (See attached list of publications.)

When we compared our first responders' pulmonary functions during the first year after 9/11 to the annual change in pulmonary functions in the five years prior to 9/11, we observed a significant decline in those functions, with the magnitude of the decline

correlating to the member's initial time of arrival at Ground Zero. On average, for both symptomatic and asymptomatic FDNY rescue workers, we found a 375 ml decline in pulmonary function for all the 13,700 FDNY WTC first responders and an additional 75 ml decline if the worker was present on 9/11 at the time of the collapse. This pulmonary function decline is 11 times greater than the average decline you would ordinarily expect with aging. More than 25 percent of those we tested with the highest exposure to WTC irritants had persistent airway hyperactivity consistent with asthma or Reactive Airway Dysfunction (RADS). In the first six months following 9/11, 332 firefighters required extended medical leave for what has been called the "WTC cough".

Now, four and a half years later, over 25 percent of the FDNY first responder workforce is still reporting respiratory symptoms and 2,000 have received extensive evaluation and treatment for respiratory disease. Nearly all of these illnesses have been due to asthma or RADS. Partnering with the American Red Cross, our free treatment program has improved the quality of life for nearly everyone in our treatment program. Unfortunately, symptoms persist and many of our first responders still need multiple, expensive medications. In addition, FDNY medical personnel noticed a small but increased incidence of unusual respiratory conditions that had never been reported in recent FDNY medical history. One recently retired FDNY member who was exposed to Ground Zero irritants died of pulmonary fibrosis while awaiting his lung transplant. Twenty of our members suffered from Sarcoidosis in the first two years following 9/11 -- a substantial increase from prior years. Sarcoidosis is an autoimmune disease that affects all body

organs, but most often the lungs. In the 9/11 setting, the immune system was presumably activated in response to massive dust inhalation.

More than 540 FDNY first responders have qualified for permanent lung disability -- meeting very strict criteria. This is a four to five fold annual increase compared to the years prior to 9/11. Clearly, these individuals need continuing treatment, which will require substantial, long-term funding.

Counseling

After 9/11, FDNY's Counseling Service Unit (CSU) responded to the new needs of our first responders by expanding from a single counseling service site in Manhattan to multiple locations in the communities where our first responders live. Partnering with multiple resources -- including the American Red Cross, the Substance Abuse Mental Health Services Agency, the Federal Emergency Management Agency, the International Association of Fire Fighters and the National Fallen Firefighters Foundation -- the FDNY secured critical funding to provide counseling services for FDNY first responders and their families. We actively sought to reduce barriers to counseling by opening new sites and making services readily available to first responders. For example, specially trained retired Firefighters visited our firehouses accompanied by counselors -- this effort was critical to opening the doors of the firehouse and letting professional counselors in. We delivered enhanced educational programs to more than 10,000 active first responders to help them identify early symptoms of stress, depression and substance abuse.

More than 12,000 people have sought mental health services through our CSU since 9/11. We developed new programs for bereaved spouses, parents and siblings. Four and a half years later, these groups still meet weekly, and are actively engaged in counseling. Clients with substance abuse problems are treated through inpatient and outpatient programs. We also offer couples counseling, and individual and group counseling to affected first responders and spouses.

The continued need for counseling services is well documented by the steady stream of clients to our Counseling Service Unit. Before 9/11, our CSU treated about 50 new clients a month. Our six locations now average around 260 new intakes each month. In each of the last three years we have treated nearly 3,500 active and retired first responders and nearly 500 spouses and close relatives. More than 85 percent of our clients are active first responders who remain on full duty while seeking assistance.

The New York City Department of Health and Mental Hygiene WTC Health Registry

The City's Department of Health and Mental Hygiene (DOHMH) WTC Health Registry (WTCHR) provides essential tracking of short- and long-term health effects for more than 71,000 enrollees. The Registry is the only resource designed to track and maintain contact with a diverse group of people who were most highly affected by exposure to the events of 9/11. It will systematically document the physical and mental health effects of 9/11 on enrollees through periodic health surveys, in-depth follow-up studies and matching to vital records and cancer registries. The WTCHR tracks a wide range of highly affected groups present on 9/11, including: 14,665 Lower Manhattan residents; 2,646 school children and staff; 43,487 building occupants, persons in transit and visitors;

and 30,665 rescue, recovery and cleanup workers and volunteers who worked at least one shift on or after 9/11. As many enrollees are in more than one group, these numbers sum to more than 71,000.

With input from scientific, community and labor advisors, baseline health interviews were conducted with 71,437 registrants during 2003 and 2004. The WTCHR is the largest effort ever in the U.S. to systemically monitor the health of persons exposed to a large-scale disaster, and it is a model for future disaster surveillance efforts.

Findings on injuries, new respiratory problems and serious psychological distress reported by 8,148 of the Registry's survivors of collapsed and damaged buildings will be published in the CDC's Morbidity and Mortality Weekly Report in April 2006. Based on the initial interviews, the Registry is also assessing the physical and mental health outcomes among children, adult residents of Lower Manhattan, WTC tower survivors and rescue, recovery and cleanup workers. The first biennial follow-up survey to assess the health of all 71,000 registrants is scheduled to begin next month.

The WTCHR is a unique resource that provides many benefits. For enrollees and others affected by 9/11, the Registry provides information on health outcomes and a periodically updated directory of available resources and treatment options. DOHMH is currently collaborating with the Mt. Sinai Medical Center and the FDNY to update clinical guidelines for physicians treating patients with 9/11-related physical and mental health problems. The Registry is collaborating with external researchers to plan in-depth studies, including a follow-up of enrollees with persistent respiratory symptoms. The

Registry is also open to health experts worldwide to help them conduct confidential in-depth health investigations following approval by the WTCHR Review Committee, which includes scientific, labor and community advisors. Several academic institutions have begun studies with the Registry providing a means to contact eligible enrollees. Additional research proposals seeking recruits from the Registry are expected to be submitted to the WTCHR this year. It is essential that the Federal Government keep faith with the more than 71,000 WTC disaster survivors who enrolled in the Registry by ensuring the stability and survival of this crucial project.

Four and a Half Years Later

The ongoing threat of terrorism demands constant preparedness. The FDNY has focused on rebuilding and improving readiness for a variety of possible events. We have significantly increased our preparedness to respond to critical events by providing innovative new training and enhanced equipment to our first responder personnel. BHS now requires, as part of our annual medical evaluation, that all first responders be fitted for Self-Contained Breathing Apparatus, P-100 and N95 mask respirators. We conduct multi-agency drills at regular intervals to ensure that our Department coordinates well with other first-responder agencies. We have conducted drills in the field each fall demonstrating that our Department can respond to a biological event with prophylactic medications for on-duty FDNY first responders while continuing to provide pre-hospital, emergency medical and fire services to our City. The smallpox vaccination program has allowed BHS, DOHMH and CDC to partner in planning and implementing strategic health programs for our community.

In the daily life of the FDNY, our first responders answer a call for help, a call to save lives. That call may be for emergency medical assistance and transport to the hospital. That call may be to suppress fire and save lives jeopardized by smoke and flame. Our first responders go out on every run fully aware that their lives may be at risk. In the years since 9/11, we have added more names to our Memorial Wall to include the latest heroes, a visible reminder that the FDNY rescue worker is on the front line. The question we continually face is: how can we best support this work force?

Fundamentally, the FDNY supports its workforce by acknowledging the work exposures, providing counseling services and continuing our medical monitoring program. In the months following 9/11, the majority of exposed first responders thought that their lives would be shortened by the exposures at Ground Zero. But our workforce has continued to fulfill their responsibilities each day despite those concerns. More than 3,500 first responders retired sooner than expected, some with health issues, most with health concerns. These dedicated first responders who were most exposed would have fallen off of our health tracking radar were it not for our intensive follow-up medical and mental health monitoring program.

Fortunately, through the efforts of our Mayor, Fire Commissioner, union leadership and concerned legislators -- including bipartisan support from our Senators and Members of Congress -- we will receive additional funding for the Medical Monitoring Program for WTC rescue workers for another three and a half years, through July 2009. This NIOSH-

funded program is coordinated jointly by FDNY (for FDNY rescue/recovery workers) and Mt. Sinai Medical Center (for non-FDNY rescue/recovery workers). This Medical Monitoring Program includes three medical examinations over the course of five years for exposed workers, both active and retired. This allows us to monitor and identify early trends or patterns of illness and wellness. It also allows us to follow longitudinally the lung function of our previously healthy and athletic firefighting force to see if the initial decline in pulmonary function continues or abates.

As I noted earlier, the long-term consequences of environmental disasters -- for example, cancer, and heart, lung and mental health disease -- can only be appreciated with a medical monitoring program extending 20 to 30 years. Our current WTC Medical Monitoring Program is a formalized program of early evaluation, but it does not provide the true long-term monitoring that our first responders need and deserve. We ask that our elected leaders help us fulfill our commitment to long-term monitoring of our first responders.

The current WTC Medical Monitoring Program also does not address treatment, although additional funding from the American Red Cross supplemented the WTC rescue workers program to provide some extra services such as CT chest scans, tobacco cessation intervention, reimbursement for costly medications and other services to assist first responders. This philanthropic funding will gradually phase out in 2006 to 2007, and will then no longer be available. This is one of many reasons why we need a rapid disbursement of the \$125 million Federal WTC aid to our treatment centers.

Further, our EMS workers who experienced WTC-related problems found that Workers' Compensation has not met their needs. The natural delay in reporting symptoms after the event, the issue of injury versus illness in the Workers' Compensation setting and the paucity of specialists in the compensation field have created problems for ill EMS workers.

Retired first responders may also encounter problems once they leave City service, when their medical claims for work-related problems are transferred to their individual insurance plans. Examples include difficulties with continuity of services and additional direct payments.

In the mental health field, medications and therapy are rarely fully covered by private medical insurance or through Workers' Compensation. Until July 2005, City employees had drug coverage for a minimal fee for certain drugs known by the acronym "PICA": Psychotropic, Injectables, Cancer or Asthma. As a result of changes in drug coverage for City employees, both psychotropic and asthma medications are now excluded. FDNY first responders, who have required these medications in record numbers since 9/11, are suffering a tremendous financial burden in order to obtain these medications and maintain their health.

Conclusion

We continue to need sustained medical monitoring for long-term health consequences and treatment of 9/11 survivors. With the help of Congress, the \$125 million in Workers' Compensation funds that was originally designated by the Federal Government for the WTC rescue workers has now been reinstated. We thank you. Of that funding, \$75 million has been earmarked to help the FDNY, the Mt. Sinai consortium, DOHMH's WTC Health Registry, the New York City Police Foundation's Project COPE and the Police Organization Providing Peer Assistance, which provide services to those first responders requiring treatment. We hope for a quick disbursement of funds so that we can provide our first responders with needed clinical services. Based on current needs and spending levels, we anticipate that this funding will last three years. Additional support will then be required for those who were the most exposed and most affected.

The FDNY takes great pride in responding to the health and safety needs of the residents of our City. When the call is sounded, the FDNY arrives to help. Well aware that the threat of terrorism remains, our first responders provide security for our homeland every day. But we have concerns about the health and safety of our rescue workers. We have an obligation to make sure that no member is left behind. We lost too many on 9/11. Early diagnosis and treatment is effective. We can only prevent more loss of life through sufficient continued funding to provide long-term monitoring and treatment.

Thank you for the opportunity to speak with you today. I would be glad to take any questions.

ATTACHMENT 1: - Fire Department of New York (FDNY) Medical Publications

1. PREZANT DJ, Weiden M, Banauch GI, McGuinness G, Rom WN, Aldrich TK and KELLY KJ. Cough and bronchial responsiveness in firefighters at the World Trade Center site. *N Eng J Med* 2002;347:806-15.
2. Banauch GI, McLaughlin M, Hirschhorn R, Corrigan M, KELLY KJ, PREZANT DJ. Injuries and Illnesses among New York City Fire Department rescue workers after responding to the World Trade Center Attacks. *MMWR* 2002;51:1-5.
3. PREZANT DJ, KELLY KJ, Jackson B, Peterson D, Feldman D, Baron S, Mueller CA, Bernard B, Lushniak B, Smith L, BerryAnn R, Hoffman B. Use of respiratory protection among responders at the World Trade Center Site – New York City, September 2001. *MMWR* 2002;51:6-8.
4. Rom WN, Weiden M, Garcia R, Ting AY, Vathesatogkit P, Tse DB, McGuinness G, Roggli V, PREZANT DJ. Acute eosinophilic pneumonia in a New York City firefighter exposed to world trade center dust. *Am. J. Resp. Crit. Care Med.* 2002;166:797-800.
5. Banauch GI, Alleyne D, Sanchez R, Olender K, Weiden M, KELLY KJ, and PREZANT DJ. Persistent bronchial hyperreactivity in New York City firefighters and rescue workers following collapse of World Trade Center. *Am. J. Resp. Crit. Care Med.* 2003; 168:54-62.
6. Edelman P, Osterloh J, Pirkle J, Grainger J, Jones R, Blount B, Calafat A, Turner W, Caudill S, Feldman DM, Baron S, Bernard BP, Lushniak BD, KELLY KJ, PREZANT DJ. Biomonitoring of chemical exposure among New York City firefighters responding to the World Trade Center fire and collapse. *Environ Health Perspect*, 2003; 111:1906-1911.
7. Feldman DM, Baron S, Mueller CA, Bernard BP, Lushniak BD, KELLY KJ, PREZANT DJ. Initial symptoms, respiratory function and respirator use in New York City firefighters responding to the World Trade Center (WTC) disaster. *Chest* 2004;125:1256-64.
8. Fireman E, Lerman Y, Ganor E, Greif J, Fireman-Shores, S, Oppenheim E, Flash R, Miller A, Banauch GI, Weiden M, KELLY KJ, PREZANT DJ. Induced sputum assessment in NYC firefighters exposed to World Trade Center dust. *Environ Health Perspect*, 2004; 112:1564-1569.
9. Banauch GI, Dhala A, Alleyne D, Alva R, Santhyadka G, Krasko A, Weiden M, KELLY KJ, PREZANT DJ. Bronchial hyperreactivity and other inhalation lung injuries in rescue/recovery workers after the World Trade Center collapse. *Crit Care Med.* 2005;33:S102-S106.

10. Banauch GI, Dhala A, PREZANT DJ. Airway dysfunction in rescue workers at the World Trade Center site. *Curr Opin Pulm Med* 2005; 11:160-8.
11. Bars MP, Banauch GI, Appel DW, Andreaci M, Mouren P, KELLY KJ, PREZANT DJ. "Tobacco Free with FDNY" – The New York City Fire Department World Trade Center Tobacco Cessation Study. *Chest* (In Press).
12. Banauch GI, Hall C, Weiden M, Cohen HW, Aldrich TK, Christodoulou V, Arcentales N, KELLY KJ, and PREZANT DJ. Pulmonary function loss after World Trade Center exposure in the New York City Fire Department. *American Journal of Respiratory and Critical Care Medicine* (In Review).

ATTACHMENT 2: - World Trade Center Health Registry (WTCHR)

External Research Projects

Approved by the WTCHR Review Committee as of 02/2006

Title: *HEED: Development of the High-Rise Evacuation Evaluation Database based on Data Arising from the WTC Disaster*

PI and Affiliation: Edwin Galea, Ph.D., Fire Safety Engineering Group, University of Greenwich, United Kingdom

Type of Request: Information (one page introductory letter and 2-page study information sheet) sent to all adult registrants who evacuated from WTC Towers 1 and 3.

Information sent via email if registrant provided an email address and via mail for those who did not provide an email address.

Date Approved: February 23, 2005

Date Request Filled: Materials sent December 2005

Sponsor: UK Engineering and Physical Sciences Research Council

Title: *The World Trade Center Evacuation Study*

PI and Affiliation: Robyn R Gershon Dr.PH, Columbia University Mailman School of Public Health

Type of Request: Information (recruitment letter, consent form, study questionnaire, pre-addressed, pre-stamped return envelope) sent via mail to all adult registrants who worked in and/or evacuated from WTC Towers 1 and 2.

Date Approved: February 23, 2005

Date Request Filled: Materials mailed May 2005

Sponsor: CDC/Association of Schools of Public Health

Title: *Functional Neuroimaging of Post-Traumatic Stress Responses to Terrorism*

PI and Affiliation: David Silbersweig, MD, Weill Medical College of Cornell University

Type of Request: Information (recruitment letter) sent via mail and email to adult registrants who were in damaged or destroyed buildings including WTC Towers 1 and 2 and people who were present south of Chambers Street on 9/11

Date Approved: July 19, 2005

Date Request Filled: December 2005

Sponsor: National Institute of Mental Health

WTCHR Technical Reports

New York City Department of Health and Mental Hygiene and the Agency for Toxic Substances and Disease Registry. Proceedings: Expert Panel on Public Health Registries. May 13, 2004. <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-report-expert.pdf>

Dolan M., Murphy M, Thalji L, Pulliam P. World Trade Center Health Registry: Sample Building and Denominator Estimation. Research Triangle Institute. Submitted to the New York City Department of Health and Mental Hygiene and the Agency for Toxic Substances and Disease Registry. December 2005.

Murphy J. World Trade Center Health Registry: Enrollment and Coverage Report. Research Triangle Institute. Submitted to the New York City Department of Health and Mental Hygiene and the Agency for Toxic Substances and Disease Registry. December 2005.

Murphy J. World Trade Center Health Registry: Explanation and Calculation of Outcome Rates. Research Triangle Institute. Submitted to the New York City Department of Health and Mental Hygiene and the Agency for Toxic Substances and Disease Registry. December 2005.

Paul Pulliam, Lisa Thalji, Laura DiGrande, Megan Perrin, Deborah Walker, et al. World Trade Center Health Registry: Data File User's Manual. Research Triangle Institute, New York City Department of Health and Mental Hygiene, and the Agency for Toxic Substances and Disease Registry. New York, New York: February 2006.